INFLUENCE OF MORAL INTELLIGENCE ON CERTAIN COGNITIVE AND AFFECTIVE VARIABLES OF STUDENT TEACHERS AT PRIMARY LEVEL

Candidate: Bhagyalakshmy R. Guide: Dr.P.J. Jacob

Introduction

Education is a process which draws out the best in man with the aim of producing a well balanced personality - culturally refined, emotionally stable, ethically sound, logically correct, mentally alert, morally upright, physically strong, socially efficient, spiritually mature, vocationally self sufficient and internationally liberal. It is believed that the main function of education is to cultivate socially desirable values in pupil.

Today, people, especially the young are facing value conflicts and dilemmas in their life and they are at a loss as to how to cope with all these problems. Each day's news adds to a growing litany of shocking tragedies and statistics about people, and they have left us shaken, deeply worried and in search of answers. Most of them are in a serious trouble, with only flimsy consciences, poor impulse control, underdeveloped moral sensitivity and misguided beliefs, they are greatly handicapped. Although the causes of moral decline are complex, one fact is undeniable: the moral atmosphere in which they are being raised is toxic for two major reasons. First, a number of critical social factors that nurture the moral characters like adult supervision, models of moral behaviours, spiritual or religious training, meaningful adult relationships and personalized schools, clear national values, community support, stability and adequate parenting are slowly disintegrating. Second, they are being steadily bombarded with outside messages that go against the very values they are trying to instill. Both factors are contributing greatly to one's moral demise as well as to their loss of innocence.

Despite the frantic efforts through education and media, however, the crisis remains the same that's because they have missed one critical piece: the moral side of one's lives. Enhancing moral intelligence is the best hope for getting them on the right course so that they do act as well as think right. Developing this miraculous moral capacity is the best way to protect their moral life now and forever. Moral intelligence will be the muscle which they need to counter those negative pressures and will give the power to act right with or without any guidance.

Moral Intelligence

Moral intelligence is a recent development in the area of intelligence as well as in affective science. It is a fascinating area of study related to everyday life. The concept 'Moral Intelligence' gained popularity through Dr. Michele Borba's (2001) best seller book titled *Building Moral Intelligence: The Seven Essential Virtues that teach kids to do the right thing* (Jossey – Bass Publications). This book provides a step by step blueprint for enhancing moral intelligence based on ethical principles. The present study is based on the theoretical constructs put forward by Dr. Borba in her book 'Building Moral Intelligence: The Seven Essential Virtues that teach kids to do the right thing'.

Moral Intelligence is the capacity to understand right from wrong; it means to have strong ethical convictions and to act on them so that one behaves in the right and honorable way (Borba, 2001). This wonderful attitude encompasses the following characteristics as

- Ability to recognize someone's pain and to stop oneself from acting on cruel intentions.
- To control one's impulses and delay gratifications
- To listen openly to all sides before judging
- To accept and appreciate difference
- To decipher unethical choices
- To emphasize
- To stand up against injustice
- To treat others with compassion and respect.

These are the core traits that help to become a decent, good human being; these are the bedrock of solid character and strong citizenships. The role of a teacher in this changing scenario is becoming very challenging. The teacher has to demonstrate the essential values such as optimism, concern for others, motivation, willingness to learn and teach, truth, non-violence, never to speak and think ill of others, creativity and ability to demonstrate unaddressed love. Before inculcating a quality in the pupil the teachers themselves should have those qualities. As it stands we possess a "system of

teacher preparation in which social and political controversy was avoided and a particular conception of professionalism as technical competence was adopted" (Beyer, 1991, p.206). Despite the focus on the technical aspects of teacher preparation some psychologists have asserted that the moral component of education is inseparable from the cognitive component, and to some it is an immanent feature of teaching itself (Beyer, 1991; Campbell, 1997; Sockett and Lepage, 2002). If such is the case, then to ignore the moral component of teaching within training programs is to produce ill-prepared teachers.

India is witnessing incidents of juvenile delinquency, as reports show that the problem of student aggression and crimes like ragging, theft and even murder is increasing day by day among school children. Cultivating moral intelligence among student teachers at primary level will be directly transferred to their students when they are small. If teacher education is to succeed in raising moral children, they must help students not only to think morally but also act morally. The investigator's previous experience as a teacher also pointed out the urgent need for enhancing moral intelligence among student teachers at primary level. The investigator conducted discussions with primary level teacher educators of TTI institutions and came to know that at present nothing is included in the TTC curriculum for enhancing moral intelligence of teacher trainees. The study helps teachers, parents and anyone to raise children with good moral values and to realize that they have vitally important role and responsibility when doing so. It also reminds that the ultimate responsibility of raising morally upright children falls on parents and teachers. By developing moral intelligence, benefits to the schools, society and students who are both smart, good and value universal human principles and rights.

Moral intelligence is a relatively new area of research in the Indian context. A critical review of the study revealed that most of the studies were conducted on the general areas of values and value education and there is not a single study which correlates moral intelligence and cognitive and affective variables of student teachers. Thus a study is envisaged to understand the influence of moral intelligence on certain cognitive and affective variables of student teachers at primary level.

Objectives of the study

1. To understand the level of moral intelligence of student teachers at primary level.
2. To understand the level of the selected cognitive variables - metacognitive awareness and academic achievement of student teachers at primary level.
3. To understand the level of the selected affective variables - general adjustment and emotional maturity of student teachers at primary level.
4. To understand the relationship between moral intelligence and metacognitive awareness of student teachers at primary level.
5. To understand the relationship between moral intelligence and academic achievement of student teachers at primary level.
6. To understand the relationship between moral intelligence and general adjustment of student teachers at primary level.
7. To understand the relationship between moral intelligence and emotional maturity of student teachers at primary level.
8. To find out the influence of moral intelligence on metacognitive awareness of student teachers at primary level.
9. To find out the influence of moral intelligence on academic achievement of student teachers at primary level.
10. To find out the influence of moral intelligence on general adjustment of student teachers at primary level.
11. To find out the influence of moral intelligence on emotional maturity of student teachers at primary level.
12. To suggest an instructional design for enhancing moral intelligence among student teachers at primary level.
13. To find out the effectiveness of the suggested instructional design on enhancing moral intelligence of student teachers at primary level.

Hypotheses of the study

1. Majority of student teachers at primary level have average moral intelligence.

2. Majority of the student teachers at primary level have average metacognitive awareness and achievement.
3. Majority of the student teachers at primary level have average general adjustment and emotional maturity.
4. There exists significant relationship between moral intelligence and metacognitive awareness of student teachers at primary level.
5. There exists significant relationship between moral intelligence and academic achievement of student teachers at primary level.
6. There exists significant relationship between moral intelligence and general adjustment of student teachers at primary level.
7. There exists significant relationship between moral intelligence and emotional maturity of student teachers at primary level.
8. Moral intelligence is having influence on metacognitive awareness of student teachers at primary level.
9. Moral intelligence is having influence on academic achievement of student teachers at primary level.
10. Moral intelligence is having influence on general adjustment of student teachers at primary level.
11. Moral intelligence is having influence on emotional maturity of student teachers at primary level.
12. The suggested instructional design will be effective in enhancing moral intelligence of student teachers at primary level.

Methodology in Brief

The main aim of the present study was to understand the level of moral intelligence, and its influence on cognitive and affective variables of student teachers at primary level. Survey method was mainly used. Through survey, the existing level of moral intelligence and its influence on certain cognitive and affective variables of student teachers at primary level were found out. For this a sample of 400 first year student teachers studying in various teacher training institutes in Kottayam district were selected based on gender, educational qualification, locale and type of management of

institution. The tools used for survey part were moral intelligence scale, metacognitive awareness inventory, emotional maturity scale and general adjustment inventory. In order to get the scores on academic achievement of student teachers, the marks obtained by each student teacher in the first year board examination was taken.

Based on the findings of the survey the investigator had discussions with the teacher educators of several teacher training institutions and came to know that at present there is no programme for fostering moral intelligence among student teachers. So the investigator suggested an instructional design (developed by herself) for enhancing moral intelligence among student teachers at primary level. The effectiveness of the suggested instructional design was found out using the experimental method. For experimentation, the investigator selected 120 students from two teacher training institutes in Kottayam district. Of the different types of experimental designs, 'single group pre test -post test design' was selected for the present study. The tools used for experimental part were instructional designs for enhancing moral intelligence and moral intelligence scale (prepared by the investigator). Initially, moral intelligence scale was administered to the student teachers at primary level as a pre test. Students were given classes based on the instructional design, using lesson transcripts in the selected topics. Moral intelligence scale was again administered as post test to find out the effect of the developed instructional design. The data thus collected were analyzed using appropriate statistical methods.

The tools used for the study are:

1. Moral Intelligence scale (developed and standardized by the investigator)
2. Meta Cognitive Awareness inventory (Schraw & Dennison, 1994)
3. Emotional maturity scale (Pal, 1987)
4. General adjustment inventory (developed and standardised by the investigator)
5. Moral Intelligence instructional designs

The data were analysed using appropriate statistical techniques.

Major Findings

The important findings of the study have been presented as follows

1. Level of moral intelligence and its dimensions of student teachers at primary level – for the total sample

The level of moral intelligence and its dimensions were categorized in to high, average and low. For this mean and standard deviation of moral intelligence scores for the total sample were calculated. The percentage of students under each group was found and is summarized as follows.

- Comparatively more students of the total sample have low moral intelligence. Of the total sample, 31.50% of the total sample has high moral intelligence, 31% has average and 37.50% has low moral intelligence.
- Level of each dimension of moral intelligence for total sample in percentage is
- For dimension empathy (34% -high, 32%- low, 34%- average)
- For conscience (33.5%- high, 37.50 % –low , 29% -average)
- For self control (31.5% - High, 41% -low, 27.5%-average)
- For respect (33.5% - high, 40.5%-low, 26.5%-average)
- For kindness (33.50%- High, 43.50% -low, 23%-average)
- For tolerance (29.5% - High, 39%-low, 31.50%-average)
- For Fairness (31.50% - High, 42% -low, 28.50%-average)

2. Comparison of moral intelligence and its dimensions of student teachers at primary level based on background variables such as gender, educational qualification, locale of the institution and type of management of the institution.

(a) Comparison of mean scores of moral intelligence and its dimensions of student teachers at primary level based on gender

- The test of significance in the mean scores of dimensions of moral intelligence such as empathy, (CR = 2.14 at 0.05 level) and respect, (CR=5.29 at 0.01 level) shows significant difference based on gender of the students. Female student teachers have comparatively higher empathy and respect than those of male student teachers at primary level.

- The test of significance of difference in the mean of moral intelligence and dimensions such as conscience, self control, kindness, tolerance and fairness of student teacher at primary level shows no significant difference based on gender.

(b) Comparison of mean scores of moral intelligence and its dimensions of student teachers at primary level based on educational qualification.

- The test of significance in the mean scores of dimension of moral intelligence such as conscience, (CR= 2.15, at 0.05level) respect, (CR= 6.70 at 0.01 level) and kindness (CR=2.43, at 0.05 level) shows significant difference based on educational qualification. ie. Student teachers having degree educational qualification shows higher conscience and kindness than that of student teachers having plus two educational qualifications. Also student teachers having plus two educational qualification show higher respect than student teachers having degree educational qualifications.
- The test of significance of differences in the means of moral intelligence and dimensions such as empathy, self control, tolerance and fairness shows no significant difference based on educational qualification.

(c) Comparison of mean scores of moral intelligence and its dimensions of student teachers at primary level based on locale of institution.

- The test of significance in the mean scores of dimensions of moral intelligence such as conscience, (CR=2.40, at 0.05level), tolerance (CR=4.16, at 0.01 level) and fairness (CR= 2.82, at 0.01 level) shows significant differences based on locale of the institution. Student teachers studying in rural area show higher tolerance and fairness than student teachers studying in urban area. The test of significance of difference in the means of moral intelligence and dimensions such as empathy, self- control, respect and kindness shows no significant difference based on locale of institution.

(d) Comparison of mean scores of moral intelligence and its dimensions of student teachers at primary level based on type of management of the institution.

- Comparison of moral intelligence and its dimension of student teachers at primary level based on type of management of the institution were computed

using analysis of variance (ANOVA). Scheffe's multiple comparison method is used to compare the mean scores of moral intelligence of any two contrasted groups taken at a time (pair-wise) to assess whether there exist any significant difference in the case of government, aided and unaided samples.

- There exist significant difference only in the means of student teachers at primary level studying in government, aided and unaided institutions for dimensions respect and tolerance. The obtained F value for respect and tolerance is (F=15.99, F=11.01, at 0.01 level).

Scheffe's multiple comparison method also reveals that,

- For the dimension respect, the combination of groups govt. - aided (G&A) and govt. -unaided (G&U) shows significant difference in their means as the obtained F value for the pair of groups, (Govt.& aided=5.30) and (Govt.& unaided=5.14) is greater than the critical value of F with df (2,397) at 0.01 level of significance. Also there exists no significant difference in the case of aided - unaided groups for dimension respect.
- For dimension tolerance, the combination of groups aided - unaided (A&U) significantly differ in their means as the obtained F value =4.64, is greater than the critical values of F with df (2,397) at 0.01 level of significance. Also there exists no significant difference in the case of govt. – aided and govt. - unaided group for dimension tolerance.

3. Level of cognitive variables - metacognitive awareness and academic achievement of student teachers at primary level.

- The level of metacognitive awareness and academic achievement was categorized in to high, average and low. For this mean and standard deviation of metacognitive awareness and academic achievement scores for the total sample were calculated. The percentage of students under each group was found and is summarized as follows.
- Of the total sample, 35% of student teachers have high metacognitive awareness, 35% have average and 30% have low metacognitive awareness. Comparatively more students of the sample have high academic achievement.

Of the total sample 39.50% has high academic achievement, 26.50% have average and 34% have low academic achievement.

4. Level of affective variables - general adjustment and emotional maturity of student teachers at primary level

The level of general adjustment and emotional maturity was categorized in to high, average and low. For this mean and standard deviation of general adjustment and emotional maturity scores for the total sample were calculated. The percentage of students under each group was found and is summarized as follows.

- Comparatively more students of the total sample have low general adjustment. Of the total sample, 33.50% has high general adjustment, 32% have average and 34.50% have low general adjustment. Also more students of the total sample have average emotional maturity. Of the total sample, 24% have high emotional maturity, 34% have low and 42% have average emotional maturity.

5. Comparison of relationship between moral intelligence and cognitive variables - metacognitive awareness and academic achievement of student teachers at primary level.

Relationship between moral intelligence and cognitive variables such as metacognitive awareness and academic achievement for total sample- based on Pearson's product moment coefficient of correlation.

- There exist slight positive correlation between moral intelligence and its dimension such as empathy, respect and tolerance with metacognitive awareness and are summarized as follows.
- For moral intelligence (r=0.17) ,for empathy (r=0.07), respect (r=0.25) and for tolerance (r=0.02)
- Also there exists slight negative correlation between the dimension of moral intelligence such as conscience, self- control, kindness and fairness with metacognitive awareness.
- Also the coefficient of correlation obtained for moral intelligence and dimensions such as self control and respect with metacognitive awareness is significant (CR=3.44, CR=-2.16, CR=5.15, 0.01 level).

- There is positive correlation between the dimension of moral intelligence such as self control and fairness with academic achievement (r=0.18, r=0.27). There exist slight negative correlation between moral intelligence and its dimensions such as empathy, conscience, respect, kindness and tolerance with academic achievement. Also the coefficient of correlation between empathy, self control and fairness with academic achievement is significant (CR=4.07, 0.05 level, CR=3.58, CR=5.59, 0.01 level).

6. Comparison of relationship between moral intelligence and cognitive variables - metacognitive awareness and academic achievement based on background variables.

The coefficient of correlation between moral intelligence and cognitive variables such as metacognitive awareness and academic achievement based on background variables such as gender, educational qualification, locale of institution and type of management of institution are calculated using Pearson's product moment coefficient of correlation.

(a) Comparison of relationship between moral intelligence and its dimensions with metacognitive awareness and academic achievement based on gender.

- Significant difference exists in the relationship between moral intelligence and cognitive variables - metacognitive awareness and academic achievement of student teachers based on gender (CR=2.96, CR=2.95, at 0.01 level). Male student teachers possess significantly higher relationship between moral intelligence and metacognitive awareness. Also male student teachers possess higher relationship between moral intelligence and academic achievement than female student teachers. There exists no significant difference in the relationship between dimensions of moral intelligence and cognitive variables – metacognitive awareness and academic achievement for male and female student teachers .

(b) Comparison of relationship between moral intelligence and its dimension with metacognitive awareness and general academic achievement - based on educational qualification.

- Student teachers having educational qualification plus two and degree possess similar relationship between moral intelligence and its dimensions with

metacognitive awareness. But in the case of relationship with academic achievement, there exists significant difference only between self control and academic achievement. The obtained critical ratio between self control and academic achievement (CR= 3.12, 0.01 level) exceeds 2.58 at 0.01 level of significance. Also student teachers having degree educational qualification possess higher relationship between self control and academic achievement.

(c) Comparison of relationship between moral intelligence and its dimensions with metacognitive awareness and academic achievement - based on locale of institution

- There exists no significant difference in the relationship between moral intelligence and cognitive variables- metacognitive awareness and academic achievement of student teachers from rural and urban institutions. Also there exists no significant difference in the relationship between dimensions of moral intelligence and metacognitive awareness of rural and urban student teachers at primary level except conscience, self control and kindness.

- The significance of difference in the relationship between dimension of moral intelligence such as conscience (CR=1.96), self control (CR= 2.74) kindness (CR= 1.98) with metacognitive awareness is significant as the obtained value exceeds 1.96 at 0.05 level of significance. Students from urban area show positive relationship between the dimensions of moral intelligence such as conscience and kindness with metacognitive awareness.

- The significance of difference in the relationship between dimension of moral intelligence such as self control (CR= 2.26,0.05 level) and tolerance (CR=3.57, 0.01 level) with academic achievement is significant. Students from urban and rural area show positive relationship between dimension of moral intelligence such as self control and tolerance with academic achievement. It can be concluded that there exists no significant difference in the relationship between the dimensions of moral intelligence and academic achievement of rural and urban student teachers at primary level except self control and tolerance.

(d) Comparison of relationship between moral intelligence and its dimensions with metacognitive awareness and academic achievement -based on type of management of institution

- There exists significant difference in the relationship between moral intelligence and its dimensions such as empathy, conscience, respect, kindness, fairness and total moral intelligence with metacognitive awareness of student teachers at primary level studying in government, aided and unaided institution. And it is summarized below.
- The critical ratio obtained in the test of significance of difference in the coefficient of correlation between moral intelligence and metacognitive awareness for the pair aided and unaided (CR=2.37, 0.05 level) is significant. The difference in the relationship between moral intelligence and metacognitive awareness is not significant between government, aided and government, unaided student teachers at primary level.
- The critical ratio obtained in the test of significance of difference in the coefficient of correlation between empathy and metacognitive awareness for the pair aided -unaided (CR=2.47, 0.05 level) is significant.
- For dimension conscience, the pairs government - aided (CR=2.67, 0.01 level) and aided -unaided (CR=4.78, 0.01 level) is significant.
- For dimension respect, the pair aided -unaided (CR=2.81, 0.01 level) is significant. Also for dimension kindness, the pairs government - aided (CR=3.94, 0.01 level) and aided - unaided (CR=5.38, 0.01 level) is significant. For fairness, the pair government - aided (CR=2.20, 0.01 level) is significant.
- There exists significant difference only in the relationship between dimensions of moral intelligence such as kindness and tolerance with academic achievement of student teachers at primary level studying in government, aided and unaided institution. And it is summarized below.
- The critical ratio obtained in the test of significance of difference in the coefficient of correlation between kindness and academic achievement for the pair aided -unaided (CR=2.59, 0.01 level) and government -aided (CR=3.15, 0.01 level) is significant.
- The critical ratio obtained in the test of significance of difference in the coefficient of correlation between tolerance and academic achievement for the

pair aided - unaided (CR=2.99, 0.01 level) and government -unaided (CR=2.44, 0.05 level) is significant.

7. Comparison of mean scores of cognitive variables such as metacognitive awareness and academic achievement of student teachers at primary level based on their level of moral intelligence

The comparison of the means of the cognitive variables such as metacognitive awareness and academic achievement of student teachers based on their level of moral intelligence were calculated using one way ANOVA and are summarized as follows.

- Significant difference exists in the mean scores of cognitive variable such as metacognitive awareness of student teachers having high, average and low moral intelligence. The difference in the mean scores of metacognitive awareness of student teachers at primary level between high, low and average moral intelligence and empathy groups is significant as the obtained the F value exceeds critical value of F, 3.02 at 0.05 level of significance.
- Scheffe's multiple comparison tests, reveals that metacognitive awareness of high moral intelligence group is comparatively higher than that of low moral intelligence group. Also metacognitive awareness of high empathy group is higher than that of average empathy group. Metacognitive awareness of high respect group is comparatively higher than that of average and low respect group of student teachers at primary level.

(a) Comparison of mean scores of cognitive variable such as academic achievement of student teachers having high, average and low moral intelligence.

- The difference in the mean scores of academic achievement of student teachers at primary level between high, average and low empathy, self control and fairness group is significant as the obtained F values exceed the critical values of F, 4.68 at 0.05 level of significance.
- Scheffe's multiple comparison tests also reveals that the general academic achievement of high and average empathy group is comparatively higher than that of low empathy group. Achievement of students having high self control and fairness group is higher than that of low and average self control and fairness group.

8. Comparison of relationship between moral intelligence and affective variables such as general adjustment and emotional maturity of student teachers at primary level.

Comparison of relationship between moral intelligence and affective variables such as general adjustment and emotional maturity for total sample - based on Pearson's product moment coefficient of correlation.

- There exist slight positive correlation between moral intelligence and its dimension such as empathy, conscience, respect, kindness, tolerance and fairness with general adjustment and are summarized as follows.
- For moral intelligence (r=0.15), for empathy (r=0.02), for conscience (r=0.14), for respect (r=0.09), for kindness (r=0.03), for tolerance(r=0.04) and for fairness (r=0.08). Also the obtained value of coefficient of correlation for moral intelligence, conscience and respect is also significant (CR=3.15, CR=2.89, 0.01 level, CR=2.01, 0.05 level). Also there exists slight negative correlation between the dimensions of moral intelligence such as self- control with general adjustment.
- There exists positive correlation between moral intelligence and its dimensions such as conscience, respect and fairness with emotional maturity and are summarized below.
- For moral intelligence (r=0.14), conscience (r=0.01), respect (r=0.08), fairness (r=0.07).Also the obtained value of coefficient of correlation between moral intelligence and emotional maturity is significant (CR=2.97,0.01 level).There exist slight negative correlation between dimension of moral intelligence such as empathy, self control, kindness and tolerance with emotional maturity.

9. Comparison of relationship between moral intelligence and affective variables - general adjustment and emotional maturity based on background variables.

The coefficient of correlation between moral intelligence and affective variables such as general adjustment and emotional maturity based on background variables such as gender, educational qualification, locale of institution and type of management of institution are calculated using Pearson's product moment coefficient of correlation.

(a) Comparison of relationship between moral intelligence and its dimensions with general adjustment and emotional maturity based on gender.

- The significance of difference in the relationship between moral intelligence and its dimensions such as empathy and fairness with general adjustment (CR=2.24, CR=2.25, CR =1.96, at 0. 05 level) is significant based on gender. Also male student teachers possess significantly higher relationship between moral intelligence and general adjustment. There exists no significant difference in the relationship between dimensions of moral intelligence and general adjustment except empathy and fairness. The significance of difference in the relationship between moral intelligence and its dimensions with emotional maturity is not significant.

(b) Comparison of relationship between moral intelligence and its dimensions with affective variables such as general adjustment and emotional maturity - based on educational qualification.

- There exists significant difference in the relationship between moral intelligence and its dimensions such as conscience with general adjustment (CR=2.09, CR= 2.51, at 0.01 level) of student teachers having plus two and degree educational qualification. There exists no significant difference in the relationship between other dimensions of moral intelligence and general adjustment of student teachers at primary level.
- Also there exists no significant difference in the relationship between moral intelligence and its dimensions with emotional maturity of student teachers at primary level except tolerance. Significant difference exists in the relationship between tolerance with emotional maturity (CR=2.50, at 0.01 level) of student teachers based on their educational qualification.

(c) Comparison of relationship between moral intelligence and its dimensions with affective variables such as general adjustment and emotional maturity - based on locale of institution

- The significance of difference exists in the relationship between moral intelligence and its dimension such as conscience (CR=2.32), self control (CR= 2.15) and moral intelligence (CR= 1.96) with general adjustment is significant as the obtained value exceeds 1.96at 0.05 level of significance.
- The significance of difference in the relationship between dimension of moral intelligence such as kindness (CR=1.97) and tolerance (CR=3.45) with emotional maturity is significant. Students from urban and rural area show positive relationship between dimension of moral intelligence such as self control and tolerance with emotional maturity.

(d) Comparison of relationship between moral intelligence and its dimension with affective variables such as general adjustment and emotional maturity -based on type of management of institution

- There exists significant difference in the relationship between moral intelligence and its dimensions such as empathy and respect with general adjustment of student teachers at primary level studying in government, aided and unaided institution. And it is summarized below.
- The critical ratio obtained in the test of significance of difference in the coefficient of correlation of total moral intelligence and general adjustment for the pair aided and unaided (CR=2.35, 0.05 level) is significant. The difference in the relationship between moral intelligence and academic achievement is not significant between government, aided and government, unaided student teachers at primary level.
- The critical ratio obtained in the test of significance of difference in the coefficient of correlation between empathy and general adjustment for the pair aided -government (CR=2.76, 0.01 level) is significant.
- For dimension respect, the pair government-aided (CR=2.69, 0.01 level) and aided- unaided (CR=3.47, 0.01 level) is significant.

- There exists significant difference only in the relationship between dimensions of moral intelligence such as tolerance and fairness with emotional maturity of student teachers at primary level studying in government, aided and unaided institution. And it is summarized below.

- The critical ratio obtained in the test of significance of difference in the coefficient of correlation between tolerance and emotional maturity for the pair aided-unaided (CR=2.65, 0.01 level) and government -unaided (CR=2.28, 0.05 level) is significant. Also for fairness, only the pair aided -unaided (CR=2.49, 0.05 level) is significant.

10. Comparison of mean scores of affective variables such as general adjustment and emotional maturity of student teachers at primary level based on their level of moral intelligence

Significance difference exists in the mean scores of general adjustment of student teachers having high, average and low moral intelligence.

The difference in the mean scores of general adjustment between high, low and average group of conscience, self control, respect and fairness is significant as the obtained the F value exceeds critical value of F, 3.02 at 0.05 level of significance.

- Scheffe's multiple comparison tests also reveals that general adjustment of high and average moral intelligence group is comparatively higher than that of high-low and average-low moral intelligence group.

  Significance of difference exists in the mean scores of emotional maturity with high, average and low moral intelligence group as the obtained the F value exceeds critical value of F, 3.02 at 0.05 level of significance.

11. Influence of dimensions of moral intelligence on total moral intelligence of student teachers at primary level- using regression analysis

Multiple regression equation is used to find out the influence of dimension of moral intelligence on total moral intelligence. It is found that 8.3% (R^2=0.083) of the variation in the total moral intelligence is determined by the dimensions of moral intelligence such as empathy, conscience, self control, respect, kindness, tolerance and fairness. Also dimensions of moral intelligence such as empathy, respect and kindness are found to have significant influence on total moral intelligence. The multiple regression equation is given by,

Moral intelligence= 182.94-0.59 empathy-0.11conscience-o.34 self control-0.50 respect- 0.98 kindness+0.30 tolerance-0.05 fairness

12. Influence of moral intelligence on metacognitive awareness of student teachers at primary level.

2.8% of the variation in the metacognitive awareness is determined by the moral intelligence and the moral intelligence shows a significant influence on metacognitive awareness of student teachers at primary level.

The simple regression equation is given by,

Meta Cognitive Awareness = 155.36 + 0.33 Moral Intelligence

13. Influence of moral intelligence on academic achievement of student teachers at primary level.

The r^2 of the regression equation is 0.00, which means that the moral intelligence have no influence in the variation of academic achievement.

14. Influence of moral intelligence and background variables on metacognitive awareness and academic achievement of student teachers at primary level

Multiple regression analysis is applied to assess the influence of background variables on metacognitive awareness of students, it is found that 15.8% (R^2= 0.158) of the variation in metacognitive awareness score is explained by these variables. All the independent variables such as moral intelligence and the background variables are found to have significant influence on metacognitive awareness of student teachers at primary level. Thus multiple regression equation obtained can be written as follows:

Metacognitive awareness = 226.95+ 27.21 X_1- 47.45 X_2+25.61X_3-45.11X_4+0.37X_5

15. Influence of moral intelligence and background variables on academic achievement of student teachers at primary level

Multiple regression analysis is applied to assess the influence of background variables on academic achievement of students, it is found that 7.3% (R^2= 0.073) of the variation in academic achievement score is explained by these variables. All the independent variables such as moral intelligence and the background variables are found to have significant influence on academic achievement of student teachers at primary level. Thus multiple regression equation obtained can be written as follows:

Academic achievement = 14.35-0.17X1-0.39X_2-1.54X_3+2.19X_4-0.004X_5

16. Influence of moral intelligence on general adjustment of student teachers at primary level

It is found that 2.3% of the variation in the general adjustment is determined by the moral intelligence and the moral intelligence shows a significant influence on general adjustment of student teachers at primary level.

The simple regression equation is given by

General adjustment = 19.45 + 0.03 moral intelligence.

17. Influence of moral intelligence on emotional maturity of student teachers at primary level

It found that 2% of the variation in the emotional maturity is determined by the moral intelligence and the moral intelligence shows a significant influence on emotional maturity of student teachers at primary level.

The simple regression equation is given by,

Emotional Maturity = 115.93 + 0.13 moral intelligence.

18. Influence of moral intelligence and background variables on general adjustment of student teachers at primary level

It is found that 7% (R^2= 0.07) of the variation in general adjustment score is explained by these variables. All the independent variables such as moral intelligence and the background variables are found to have significant influence on general adjustment of student teachers at primary level. Thus multiple regression equation obtained can be written as follows:

General adjustment = 15.17+ 3.61 X_1+1.67 X_2-2.55X_3+0.68X_4+0.04X_5

19. Influence of moral intelligence and background variables on emotional maturity of student teachers at primary level

When the multiple regression analysis is applied to assess the influence of background variables like gender, educational qualification, locale of institution and type of management of institution on emotional maturity scores of students, it is found that 6.2% (R^2= 0.062) of the variation in emotional maturity score is explained by these variables. All the independent variables such as moral intelligence and the background

variables are found to have significant influence on emotional maturity of student teachers at primary level. Thus multiple regression equation obtained can be written as follows:

$$\text{Emotional maturity} = 15.17 + 3.61\ X_1 + 1.67\ X_2 - 2.55X_3 + 0.68X_4 + 0.04X_5$$

20. Comparison of means of pre test -post test scores of student teachers at primary level

Results revealed that there exists significant difference between means of pre test and post test scores of moral intelligence (total and its dimensions) of student teachers at primary level. This inferred that the strategy designed for the enhancement of moral intelligence of student teachers at primary level is effective.

Conclusions of the study

The major conclusions that emerged from the study are given below.

1. Comparatively more students of the total sample have low moral intelligence. Of the total sample, 31.50% of the total sample has high moral intelligence, 31% has average and 37.50% has low moral intelligence.

2. In the case of dimensions empathy and respect shows significant difference based on gender. Female student teachers have comparatively higher empathy and respect than those of male student teachers at primary level.

3. Student teachers at primary level show no significant difference in the mean scores of dimensions of moral intelligence such as conscience, respect and kindness based on educational qualification. Student teachers having degree educational qualification shows higher conscience and kindness than that of student teachers having plus two educational qualifications.

4. In the case of dimensions of moral intelligence such as conscience, tolerance and fairness shows significant difference based on locale of institution. It is also evident that student teachers studying in rural area show higher tolerance and fairness than student teachers studying in urban area.

5. Analysis of variance of moral intelligence scores of student teachers studying in government, aided and unaided institutions shows significant difference only in the case of dimensions respect and tolerance. Scheffe's multiple comparison tests also reveals that for dimension respect, the combination of groups government and aided

and government and unaided shows significant difference in their means. Also for dimension tolerance, the combination of groups aided and unaided shows significant difference.

6. Student teachers at primary level possess high metacognitive awareness and general academic achievement. Of the total sample, majority of the student teachers shows low general adjustment. Emotional maturity of student teachers is at average level.

7. There exists slight positive correlation between moral intelligence and its dimensions such as empathy, respect and tolerance with metacognitive awareness. There exists slight negative correlation between the dimensions of moral intelligence such as conscience, self control, kindness and fairness with metacognitive awareness. There is positive correlation between the dimensions of moral intelligence self control and fairness with general academic achievement. There exists slight negative correlation between moral intelligence and dimensions like empathy, conscience, respect, kindness and tolerance with general academic achievement.

8. There exists significant difference in the relationship between moral intelligence with metacognitive awareness and academic achievement. Also male student teachers possess significantly higher relationship between moral intelligence with metacognitive awareness and general academic achievement.

9. Student teachers having educational qualification plus two and degree possess similar relationship between moral intelligence and its dimensions with metacognitive awareness. There exists significant difference in the relationship between moral intelligence academic achievement. For dimension self control, student teachers having degree educational qualification possess higher relationship with academic achievement.

10. There exists significant difference in the relationship between moral intelligence and its dimensions such as empathy, conscience, respect, kindness, fairness with metacognitive awareness of student teachers studying in government , aided and unaided institutions.

11. For empathy groups, there exists significant difference in the mean scores of metacognitive awareness of student teachers at primary level between high, average and low moral intelligence. Scheffe's multiple comparison test reveals that

metacognitive awareness of high moral intelligence group is comparatively higher than that of average empathy group. Metacognitive awareness of high respect group is comparatively higher than that of average and low respect group of student teachers at primary level.

12. The difference in the mean scores of general academic achievement of student teachers at primary level between high, average and low empathy, self control and fairness group is significant. Scheffe's multiple comparison tests also reveals that the academic achievement of high and average empathy group is comparatively higher than that of low empathy group. Achievement of students having high self control and fairness group is higher than that of low and average self control and fairness group.

13. There exists slight positive correlation between moral intelligence and its dimensions such as empathy, conscience, respect, kindness and tolerance with general adjustment. There is positive correlation between the dimensions of moral intelligence self control with general adjustment. There exists positive correlation between moral intelligence and dimensions like conscience, respect and fairness with emotional maturity. There exists slight negative correlation between the dimensions of moral intelligence such as empathy, self control, kindness and tolerance with emotional maturity.

14. There exists significant difference in the relationship between moral intelligence with general adjustment. Also male student teachers possess significantly higher relationship between moral intelligence and general adjustment. There exists no significant difference in the relationship between moral intelligence and its dimensions with emotional maturity.

15. There exists significant difference in the relationship between moral intelligence and its dimensions such as conscience with general adjustment. Also there exists significant difference in the relationship between moral intelligence such as tolerance with emotional maturity.

16. There exists significant difference in the relationship between moral intelligence and its dimensions such as conscience, self control with general adjustment. Also there exists significant difference in the relationship between moral intelligence and its dimensions such as kindness and tolerance with emotional maturity.

17. There exists significant difference in the relationship between moral intelligence and its dimensions such as empathy, conscience, respect, kindness, fairness with metacognitive awareness of student teachers studying in government, aided and unaided institutions.

18. There exists significant difference in the mean scores of general adjustment between high, average and low group of conscience, self control, respect and fairness. Scheffe's multiple comparison test reveals that general adjustment of high and average moral intelligence group is comparatively higher than that of high-low and average-low moral intelligence group. Also there exists significant difference in the mean scores of emotional maturity with high, average and low moral intelligence group.

19. 2.8% of the variation in the metacognitive awareness is determined by the moral intelligence and the moral intelligence shows a significant influence on metacognitive awareness of student teachers at primary level. The r^2 of the regression equation is 0.00, which means that the moral intelligence have no influence in the variation of academic achievement.

20. Moral intelligence and the background variables are found to have significant influence on metacognitive awareness of student teachers at primary level. Moral intelligence and the background variables are found to have significant influence on academic achievement of student teachers at primary level.

21. 2.3% of the variation in the general adjustment is determined by the moral intelligence and the moral intelligence shows a significant influence on general adjustment of student teachers at primary level.

22. 2% of the variation in the emotional maturity is determined by the moral intelligence and the moral intelligence shows a significant influence on emotional maturity of student teachers at primary level.

23. Moral intelligence and the background variables are found to have significant influence on general adjustment of student teachers at primary level.

24. Moral intelligence and the background variables are found to have significant influence on emotional maturity of student teachers at primary level.

25. There exists significant difference in the means of pre test and post test scores of moral intelligence (total and its dimensions) of student teachers at primary

level. This inferred that the strategy designed for the enhancement of moral intelligence of student teachers at primary level is effective. So the hypothesis is fully substantiated

Educational Implications of the Study

- Teacher has a powerful and abiding influence in the formation of the character of the future citizens. The quality of teachers depends upon the quality of teacher education they receive. So in framing teacher education curriculum one has to kept in mind the constitutional goals, moral values, educational challenges, new emerging concerns etc.
- Teacher educators point out the importance of establishing a respectful and caring relationship with students, helping teachers understand and practice different ways to do this. This is accompanied by helping teachers learn how to establish a supportive classroom climate, which is important for achievement and ethical character development. Teacher education strategies help the teachers to make explicit the hidden moral education curriculum and to encourage their students that are immanent to best practice moral instruction. Also teachers learn a toolkit of pedagogical skills that targets moral character education as an explicit curricular goal.
- Educational institutions arrange special programmes for parents and other members of the family to make them aware of the role; the family has to play in developing moral intelligence among children. Parents not only encourage the child's cognitive ability but also arrange the environment to make them morally competent.
- The study also help the teacher educators for reforming curriculum, organizing instructions, discipline, discovery of the problematic cases, organizing leisure time activities etc. The study will also give appropriate guidelines for the authorities and policy makers for the effective implementation of a curriculum with the integration of moral intelligence.
- Keeping the results of the study in mind, agencies like NCERT, SCERT etc stress the need of inculcating moral intelligence in the present educational system.

- Low moral intelligence leads to toxic behaviors such as crime, suicide, peer cruelty and bullying, behavior problems, violence, stealing, cheating, underage drinking etc. Whereas, high moral intelligence leads to nourishing behaviors and make the person feel valued, respected, affirmed, encouraged or competent. So moral intelligence be included as a separate subject in the curriculum or incorporated with other subjects.
- Parents should take friendly care and support to insert a healthy and congenial environment for their children. Harsh punishments, sarcastic comments and negative attitude are to be avoided to develop outlook among their children with a well-adjusted personality.
- The present educational system focuses only on the academic outcomes and their moral development is unnoticed. So provision for developing moral intelligence in students is necessary.
- The study provides a functional view of what direction a teacher can take in deliberately fostering moral character of the children.